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Corrigendum

Corrigendum to "Spinel-covered interlayer MgO enhances the performance of $BiVO_4$ photocatalytic ammonia synthesis" [Appl. Catal. B Environ. Energy 344 (2024) 123670]

Kaiyi Chen [a], Rongling Wang [a], Qiong Mei [a], Fei Ding [a], Hui Liu [c], Guidong Yang [d,*], Bo Bai [a], Qizhao Wang [a,b,**]

[a] School of Water and Environment, Key Laboratory of Subsurface Hydrology and Ecological Effects in Arid Region of Ministry of Education, Key Laboratory of Subsurface Hydrology and Ecological Effect in Arid Region of the Ministry of Education, Chang'an University, Xi'an 710054, China
[b] College of Chemistry and Chemical Engineering, Northwest Normal University, Lanzhou 730070, Gansu, China
[c] School of Metallurgy and Environment, Chinese National Engineering Research Center for Control & Treatment of Heavy Metal Pollution, Central South University, Changsha 410083, China
[d] School of Chemical Engineering and Technology, Xi'an Jiaotong University, Xi'an, Shaanxi 710049, China

The authors regret that Fig. 5d is incorrect in the original manuscript. ABPE has an error in the conversion from current-voltage curve. The ABPE value is calculated from the current-voltage curve with the following formula:

$$ABPE(\%) = \frac{|J| \times (V_{th} - V_{bias})}{P} \times 100\%$$

$|J|$ is the current density (mA cm^{-2}), V_{th} is the theoretical water decomposition voltage (1.23 V vs. RHE), V_{bias} is the bias voltage relative to the reversible hydrogen electrode, P is the light intensity of AM 1.5 G (100 mV cm^{-2}).

During the current-voltage tests, $|J|$ and V_{bias} were obtained using Ag/AgCl (3.5 M KCl) electrode as the reference electrode. The bias voltage corresponding to Ag/AgCl should be converted to the bias voltage corresponding to the reversible hydrogen electrode during the calculation of ABPE, because this step was missing, which led to an error in the transverse (V_{bias}). The bias voltage is involved in the ABPE calculation process, so it eventually leads to an error in the ABPE value. The modified diagram is shown below:

To assess the efficiency of the electrical energy being subtracted, ABPE was used as shown in Fig. 5d. $MnCo_2O_4/MgO/BiVO_4$, and $ZnCo_2O_4/MgO/BiVO_4$ achieve the highest efficiencies of 1.42% and 2.01% at 0.53 V vs. RHE, respectively. $MgO/BiVO_4$ can only obtain 0.64% at 0.74 V vs. RHE, and $BiVO_4$ can only obtain 0.3% at 0.85 V vs. RHE.

The authors would like to apologise for any inconvenience caused.

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* Corresponding author.
** Corresponding author at: School of Water and Environment, Key Laboratory of Subsurface Hydrology and Ecological Effects in Arid Region of Ministry of Education, Key Laboratory of Subsurface Hydrology and Ecological Effect in Arid Region of the Ministry of Education, Chang'an University, Xi'an 710054, China.
E-mail addresses: guidongyang@mail.xjtu.edu.cn (G. Yang), wangqizhao@163.com, qzwang@chd.edu.cn (Q. Wang).

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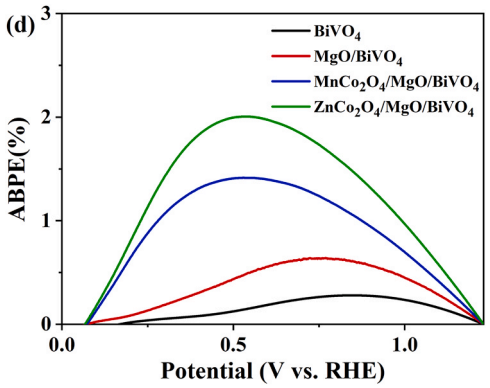

Fig. 5. (d) ABPE diagrams of $BiVO_4$, $MgO/BiVO_4$ and $MCo_2O_4/MgO/BiVO_4$ (M = Zn, Mn).